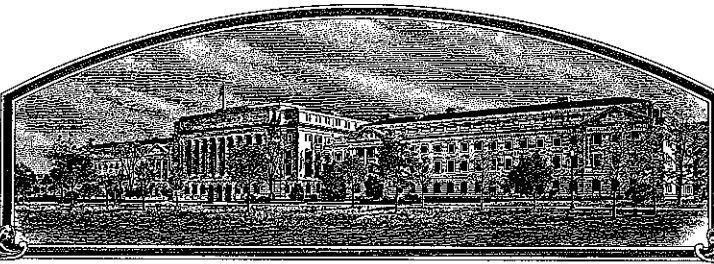


No.

200300205



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Florida Agricultural Experiment Station

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR PROPAGATING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED IN THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PEANUT

'ANorden'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-fifth day of August, in the year two thousand and five.

Attest:

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

Secretary of Agriculture



U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

## APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)  Florida Agricultural Experiment Station		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  UF98511	3. VARIETY NAME  RAD 5/28/2003 A Norden
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)  Office of Dean for Research 1022 McCarty Hall, University of Florida P. O. Box 110200 Gainesville, FL 32611-0200		5. TELEPHONE (include area code)  352-392-1784	FOR OFFICIAL USE ONLY PVPO NUMBER <b>200300205</b>
		6. FAX (include area code)  352-392-4965	
7. GENUS AND SPECIES NAME  Arachis hypogaea L.	8. FAMILY NAME (Botanical)  Leguminoeae		FILING DATE March 28, 2003
9. CROP KIND NAME (Common name)  Peanut (Groundnut)			FILING DATE March 28, 2003
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name)  Florida Agricultural Experiment Station			CERTIFICATION FEE: \$ 432 -
11. IF INCORPORATED, GIVE STATE OF INCORPORATION  NA		12. DATE OF INCORPORATION  NA	DATE June 28, 2005
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS  Dr. D. W. Gorbet North Florida Research and Education Center 3925 Highway 71 Marianna, FL 32446			14. TELEPHONE (include area code)  RAD 5/6/05 850 482-9956
			15. FAX (include area code)
16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to PVPO)			
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input checked="" type="checkbox"/> YES (If "yes," answer items 18 and 19 below) <input type="checkbox"/> NO (If "no," go to item 20)			
18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED	
20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES (If "yes," give names of countries and dates) <input type="checkbox"/> NO  USA, May, 2002			
21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.  The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.  Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT (Owner(s))  D. W. Gorbet		SIGNATURE OF APPLICANT (Owner(s))  Richard L. Jones	
NAME (Please print or type)  D. W. Gorbet		NAME (Please print or type)  Richard L. Jones	
CAPACITY OR TITLE  Professor/Breeder	DATE  2/18/03	CAPACITY OR TITLE  Dean for Research	DATE  2-25-03

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Florida Agricultural Experiment Station University of Florida, IFAS RAP 5/6/05		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME UF98511		3. VARIETY NAME A Norden RAP 6/30/2003	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) Office of Dean for Research 1022 McCarty Hall, University of Florida P. O. Box 110200 Gainesville, FL 32611-0200		5. TELEPHONE (Include area code) 352-392-1784		FOR OFFICIAL USE ONLY PVPO NUMBER	
6. FAX (Include area code) 352-392-4965		7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) University Ag. Expt. Stn. (Public)		8. IF INCORPORATED, GIVE STATE OF INCORPORATION NA	
9. DATE OF INCORPORATION NA		10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Dr. Daniel W. Gorbet North Florida Research and Education Center 3925 Highway 71 Marianna, FL 32446		FILING AND EXAMINATION FEES: \$ DATE CERTIFICATION FEE: \$ DATE	
11. TELEPHONE (Include area code) 850-482-9956		12. FAX (Include area code) 850-482-9917		13. E-MAIL dgorbet@mail.ifas.ufl.edu	
14. CROP KIND (Common Name) Peanut		15. GENUS AND SPECIES NAME OF CROP Arachis hypogaea L.		16. FAMILY NAME (Botanical) Leguminosae	
17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input checked="" type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input type="checkbox"/> NO (If "no", go to item 22)	
20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)		22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES May 2002 <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)	
23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? USA Utility Patents on oil chemistry <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		24. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER 		SIGNATURE OF OWNER 			
NAME (Please print or type) Daniel W. Gorbet		NAME (Please print or type) Richard L. Jones			
CAPACITY OR TITLE Professor/Breeder		DATE April 11, 2003		CAPACITY OR TITLE Dean for Research	
DATE 4/25/03		2			

## INSTRUCTIONS

**GENERAL:** To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

## ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) Identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

As noted (Breeder, Foundation, Registered, Certified (one year each)).

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

May 2002 (Foundation)

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

Three U.S. utility patents affect this variety: 1) No. 5,922,390; 2) No. 6,063,984; and 3) No. 6,121,472

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/lsg/seed.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0056. The time required to complete this information collection is estimated to average 3.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

ST-470 (02-10-2003) designed by the Plant Variety Protection Office with Word 2000. Replaces former versions of ST-470, which are obsolete.

16a. Exhibit A - Origin and Breeding History of Variety of ANorden

ANorden (UF98511) came from a cross made in the greenhouse at Marianna, Florida in 1992. The cross was made to incorporate the "high oleic" oil chemistry into material to select for good pod/seed yield, good grades, medium maturity, tomato spotted wilt virus resistance, and to improve oil chemistry. A pedigree selection program was followed in the F<sub>1</sub>-F<sub>5</sub> under sprayed (leafspot), high management conditions. Population sizes for F<sub>2</sub>-F<sub>5</sub> were approximately 120-30-30-30 with seed from two F<sub>5</sub> plants being bulked to initiate yield tests at Marianna in 1997. Emphasis was on good agronomic runner plants, pods, and seed types with resistance to tomato spotted wilt virus. ANorden was yield tested at Marianna and Gainesville in 1998-2003.

Pedigree = UF98511 = 92xOL19-3-3-3-b2-B  
[(72x84B-) x F1248]

The male parent (F1248) was a backcross selection from 'Sunrunner' with F435-HO (high oleic) to get the high oleic chemistry. The F435-HO parent of F1248 is a breeding line from the University of Florida program that is an outcross/mutation selection from a Florispan derivative that has high oleic oil chemistry. This line was first reported in a 1987 article in *Peanut Science* (Norden, et al.). F435-HO has been widely used in peanut breeding programs around the world. SunOleic 95R was the first commercial cultivar released with this breeding background with high oleic oil chemistry, followed by SunOleic 97R. The female parent was a UF advanced breeding line from a cross of 'Florunner' x F427B-3-1-7-4. The latter is a sisterline of Altika (UF variety release). ANorden is a runner market-type peanut with runner/prostrate growth habit, classified as *Arachis hypogaea* ssp. *hypogaea* var. *hypogaea*. The branching, leaf size and plant color are normal compared to other cultivars, being similar to 'SunOleic 97R'. The seed of ANorden are pink (testa), plump and rounded to somewhat elongated, being similar in size and shape to Florunner.

ANorden was put into yield tests in 1997 as a bulk of seed from two F<sub>5</sub> plants. The resulting plants, pods, and seed were uniform in appearance and tested uniform for the high oleic oil chemistry. All plots and seed increases of ANorden in Florida tests have been uniform and stable for the past eight generations. Variants have not been seen during this time.

References:

- 1) Gorbet, D. W., and D. A. Knauff. 2000. Registration of 'SunOleic 97R' Peanut. *Crop Sci.* 40:1190-1191.
- 2) Norden, A. J., D. W. Gorbet, and D. A. Knauff. 1985. Registration of Sunrunner Peanut. *Crop Sci.* 25:1126.

16.b. Exhibit B – Novelty Statement of ANorden

ANorden is a runner market-type (pods, seed) peanut (*A. hypogaea* L.) with a prostrate/runner growth. The foliage is medium to somewhat light green, similar to 'SunOleic 97R'. Seed of ANorden are plump, rounded to somewhat elongated with pink testa and a 100-seed weight of  $61 \pm 1.5$ g. ANorden is most like SunOleic 97R except has better resistance to tomato spotted wilt virus, as noted in table 1. Rated on UF 1-10 scale (1 = no disease symptoms), ANorden rated 3.5 compared to 7.2 for SunOleic 97R in Florida field tests (1997-2001). Converting these data to a 1-4 scale (4 = resistant), ANorden should rate about 3-3.5 vs. 1.5 for SunOleic 97R. ANorden also has better resistance to TSWV than SunOleic 95R (similar to 97R) and AT201. Based on Marianna, Florida data on ratings for TSWV across tests for 1999-2003 on the Florida 1-10 scale (1 = no disease evident), the ratings for ANorden, SunOleic 97R, AT201, and Georgia Green were 4.3, 7.4, 7.0, and 4.8, respectively. This would translate on the 1-4 scale (4 = resistant) into about 3, 1.5, 1.5, and 3, respectively.

ANorden also has better resistance to TSWV than SunOleic 95R (similar to 97R) and AT201. Table 2 gives pod yield and TSWV rating for Florida tests conducted 2001-2004 showing these comparisons. TSWV was rated on a 1-10 scale, where 1 = no symptoms and data are also presented on a 4-1 scale, with 4 = highly resistant.

Table 1. Pod yield and grading data for ANorden in Florida field tests (1997-2002).

Entry Location/year	Pod Yield (lbs./A.)	TSMK <sup>1</sup> %	ELK <sup>2</sup> %	100-seed wt. (g)	Disease <sup>3</sup> A      B	
<u>(2) Marianna – 1998<sup>4</sup></u>						
ANorden	4120	75.2	10.7	59.4	3.2	3.3
SunOleic 97R	2656	74.5	13.6	59.3	6.1	2.3
Georgia Green	4027	77.8	15.8	61.1	4.4	2.8
<u>(6) Marianna – 1999</u>						
ANorden	2932	74.5	6.8	58.0	4.1	2.9
SunOleic 97R	1085	72.7	9.3	55.4	8.3	1.6
Georgia Green	2251	76.5	6.7	52.1	5.4	2.5
<u>(5) Marianna – 2000</u>						
ANorden	5180	78.3	18.7	63.8	3.2	3.3
SunOleic 97R	3728	77.6	23.1	63.4	6.9	2.1
Georgia Green	4815	79.4	18.6	58.2	3.6	3.2
<u>(8) Marianna – 2001</u>						
ANorden	4973	76.8	22.1	62.3	3.0	3.4
SunOleic 97R	3150	76.9	21.6	60.1	6.9	2.1
Georgia Green	4598	77.9	17.4	56.5	3.8	3.1
<u>(4) Marianna – 2002</u>						
ANorden	2867	76.9	20.2	59.9	5.1	2.6
SunOleic 97R	1774	77.5	24.6	59.5	7.4	1.8
Georgia Green	2589	78.5	19.5	55.3	5.1	2.6
<u>(6) Gainesville – 1998-02</u>						
ANorden	5454	77.4	28.2	64.7	1.5	3.8
SunOleic 97R	4771	78.7	34.8	65.2	1.8	3.7
Georgia Green	5645	81.0	36.1	63.5	1.7	3.7

<sup>1</sup>TSMK = Total sound mature kernels riding a 16/64<sup>th</sup> inch screen.

<sup>2</sup>ELK = Extra large kernels, seed riding a 21.5/64<sup>th</sup> inch screen.

<sup>3</sup>Disease rated for tomato spotted wilt virus on a: A) 1-10 scale, 1 = no disease, and B) 4-1 scale, 4 = highly resistant.

<sup>4</sup>Number in parentheses = number of tests averaged for data.

16.c. Exhibit C – Objective Description of Variety (ANorden)

ANorden is a runner/prostrate peanut (*A. hypogaea*) with runner market-type pods and seed. It is most similar to SunOleic 97R but has better resistance to TSWV. Pod yields of ANorden have been about 8% better than Georgia Green in Florida tests. ANorden's level of resistance to TSWV is essentially the same as for Georgia Green (see tables in section D). The main significant trait for ANorden is that it has high oleic (18:1) oil chemistry (80±%) and low linoleic (18:2 = 2-3%). The oil content of the seed is about 47%, being similar to SunOleic 97R and Florunner.

References:

- 1) Gorbet, Daniel W. 2003. ANorden – A new high oleic peanut cultivar. UF Agric. Expt. Stn. NFREC Res. Rpt. 03-3. 5 p.
- 2) Gorbet, Dan, Harry Wood, Mark Gomillion and Ben Whitty. 2004. Florida peanut variety trials – 1999-2003. UF Agric. Expt. Stn. NFREC Res. Rpt. 04-1. 6 p.



U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION  
BELTSVILLE, MARYLAND 20705

OBJECTIVE DESCRIPTION OF VARIETY  
PEANUT (*Arachis hypogaea*)

NAME OF APPLICANT(S) Florida Agricultural Experiment Station	VARIETY NAME OR TEMPORARY DESIGNATION A Norden 5/28/2003
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) Office of Dean for Research 1022 McCarty Hall, University of Florida P. O. Box 110200, Gainesville, FL 32611-0200	FOR OFFICIAL USE ONLY PVPO NUMBER 200300205

Place the appropriate number that describes the varietal character of this variety in the boxes below.  
Place a zero in first box (e.g., 089 or 09 ) when number is either 99 or less or 9 or less.

## 1. BOTANICAL TYPE:

1	Flowering on the Main Stem:	1 = ABSENT	2 = PRESENT
1	Branching Pattern:	1 = ALTERNATE - Pairs of vegetative & reproductive branches (Virginia)	3 = OTHER (Specify) _____
		2 = SEQUENTIAL - Continuous reproductive branches (Valencia-Spanish)	

## 2. PLANT:

1	Habit:	1 = PROSTRATE (Florunner)	2 = DECUMBENT (NC-5)	3 = SEMI-ERECT (Floripan)	4 = ERECT (Starr)	3	Branching:	1 = SPARSE (Valencia)	2 = MODERATE (Starr)	3 = PROFUSE (Florunner)
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## 3. MATURITY:

2	Region:	1 = VIRGINIA, NORTH CAROLINA	2 = S.E. UNITED STATES	3 = S.W. UNITED STATES	4 = OTHER
1	3	5	NUMBER OF DAYS TO MATURITY		
	0	NO. OF DAYS EARLIER THAN . . . . .		2	1 = STARR    2 = FLORUNNER    3 = FLORIGIANT 4 = VIRGINIA 61R    5 = NC-2 6 = NC-5    7 = SOUTHEASTERN RUNNER 56-15 8 = OTHER (Specify) _____
		NO. OF DAYS LATER THAN . . . . .			

## 4. LEAVES:

2	COLOR AT 60 DAYS: (Nickerson Color Designation):	1 = LIGHT GREEN (10Gy 6/9)	2 = MEDIUM GREEN (2.5G 5/9)
		3 = DARK GREEN (5G 4/7)	4 = OTHER (Specify) _____
6	5	MM. LEAFLET LENGTH (Basal leaflet of the youngest fully opened leaf)	
2	.	7	LEAFLET LENGTH/WIDTH RATIO

## 5. POD: (Average for 20 pods at maturity)

2	8	MM. LENGTH	1	2	MM. DIAMETER
4	5	0	6	KG./HA. POD YIELD	
				1 = STARR    2 = FLORUNNER    3 = FLORIGIANT 4 = VIRGINIA 61R    5 = NC-2 6 = NC-5    7 = SOUTHEASTERN RUNNER 56-15 8 = OTHER (Specify) Georgia Green	% LESS THAN . . . . .
		8	% MORE THAN . . . . .		8
	7	% FANCY SIZE: (% riding 13.46 mm., 34/64 inch, spacing set on presizer roller)			

## 5. POD (Average for 20 pods at maturity):

NUMBER OF SEEDS PER POD: 1 = 1    2 = 2    3 = 3    4 = 3-4    5 = 2-3-4  
 CONstriction: 1 = SHALLOW OR NONE (Virginia 56R, Argentine)    2 = MEDIUM (Virginia 61R)    3 = DEEP (Starr)  
 SURFACE: 1 = GLABROUS (Florunner)    2 = PUBESCENT (Florispan)  
 BEAK: 1 = ABSENT    2 = INCONSPICUOUS    3 = PRONOUNCED

## 6. SEED (Mature, cured but not aged):

COAT COLOR: 1 = WHITE (Pearl)    2 = CREAM    3 = TAN (Starr)    4 = BROWN    5 = PINK (Floriant)  
                                 6 = RED    7 = PURPLE    8 = DARK PURPLE    9 = VARIGATED  
                                 10 = OTHER (Specify) \_\_\_\_\_  
 COAT SURFACE: 1 = SMOOTH    2 = INDENTED     1 = UNIFORM COLOR    2 = BLEMISHED  
                                 1 = SPHERIODAL (Starr)    2 = SHORT-BROAD (Florunner)    3 = ELONGATED-SLENDER (Dixie Runner)  
 SHAPE: 4 = CYLINDRICAL-TAPERED ENDS    5 = CYLINDRICAL-BLUNT ENDS (NC-2)    6 = OTHER (Specify) \_\_\_\_\_  
  MM. LENGTH      MM. WIDTH      GRAMS PER 100 SEED (8% Moisture)

## 7. DISEASE RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

SOUTHERN STEM ROT     RUST  
 EARLY LEAF SPOT     VIRUS X  
 SOUTHERN LEAF SPOT     MOSAIC  
 POD ROT COMPLEX    3  OTHER (Specify) Tomato spotted w/ lt virus

1-4 scale; 4 = resistant  
RAP 1/3/05

## 8. INSECT RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

THRIPS     BURROWING BUG  
 LEAF HOPPER     NEMATODE (Specify species)  
 SOUTHERN CORN ROOTWORM     LESSER CORNSTALK BORER  
 APHID     OTHER (Specify) \_\_\_\_\_

## 9. COMPARISON OF SUBMITTED VARIETY WITH ONE OR MORE SIMILAR VARIETIES:

VARIETY	OIL* (%)	PROTEIN* (%)	OLEIC: * LINOLEIC ACID RATIO	IODINE* NUMBER	SHELLING (%)	SMK** (%)	ELK+ (%)	MAIN STEM HEIGHT (CM)
SUBMITTED	47.0	27.0	27.5	78	78.7	76.2	15.8	37.4
SIMILAR	48.1	25.6	32.0	76	79.1	75.9	17.8	38.7
NAME OF SIMILAR VARIETY	SunOleic 97R	SunOleic 97R	SunOleic 97R	SunOleic 97R	SunOleic 97R	SunOleic 97R	SunOleic 97R	SunOleic 97R

\* From Sound Mature Kernels

\*\* Sound Mature Kernels

+ Extra Large Kernels

## 10. INDICATE A VARIETY WHICH MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	VARIETY	CHARACTER	VARIETY
POD COLOR	SunOleic 97R	SEEDLING VIGOR	SunOleic 97R
SEED DORMANCY	SunOleic 97R	HULL THICKNESS	SunOleic 97R
SEED SIZE	SunOleic 97R	LEAF COLOR	SunOleic 97R

## 11. COMMENTS (Additional description or clarification -- Such as: Relative disease reactions may be compared with standard varieties)

Norden has resistance to tomato spotted wilt virus equal to or better than Georgia Green, with "high oleic" oil chemistry.

## Exhibit D - Additional Description of Variety of ANorden

ANorden is a medium maturity ( $135 \pm 3$  DAP) runner market-type peanut with excellent pod/seed yield potential, very good tomato spotted wilt (TSWV) resistance, and excellent oil quality (high oleic).

Table 1 gives data on pod yield, grading factors and disease ratings for thirty-one Florida tests conducted at Marianna and Gainesville (1997-2002). These data show the pod yield advantage of ANorden over SunOleic 97R. ANorden usually gives somewhat better pod yields than Georgia Green from Marianna data but they are about the same in Gainesville tests. Based on 100-seed weights, ANorden has somewhat larger seed than Georgia Green. ANorden shows better resistance to TSWV than SunOleic 97R and usually better than Georgia Green.

Table 2 gives data on tests grown at Marianna, Florida (2001-2004) under high TSWV pressure conditions (early April and May planted). ANorden had less disease and greater pod yields than the other high oleic peanut cultivars (SunOleic 95R, SunOleic 97R and AT201) in these nine tests.

Table 3 gives data on TSWV tests grown at Marianna, Florida and Tifton Georgia, under high pressure conditions (April planted). ANorden had pod yields and disease resistance (% disease) equal to or better than the resistant check, Georgia Green, in all of these tests. Also, ANorden had much better pod yield with lower disease than the other high oleic checks (SunOleic 97R, AT201), as well as GK7.

Table 4 gives data on oil quality from Florida tests, conducted in University of Florida labs. These data were from no less than 10 samples for FA and for oil content (1999-2000). These results show the high oleic (18:1) oil content of ANorden, being similar to SunOleic 97R, along with the low linoleic content (2.9%). This is from the same genetic source as SunOleic 97R. This chemistry has been shown to greatly enhance shelf-life/stability of the oil and for products made from these type peanuts, compared to the "normal" chemistry (Georgia Green, Florunner). Data from lab studies and other data on this type oil chemistry (i.e., olive oil) have shown probable health advantages for high oleic oil.

Table 5 gives chemistry and flavor data on ANorden compared to Georgia Green for samples from the 2001 crop at Marianna. These data further support the chemistry data in Table 4 and indicates that ANorden's flavor is acceptable.

Table 6 gives blanching data on samples from the 1998-2000 crop at Marianna, comparing ANorden to Georgia Green and C-99R. ANorden's

blanching data is very much like Georgia Green and C-99R, which are widely grown in the southeast USA.

Table 7 gives data on seed size distribution for ANorden compared to Georgia Green and C-99R. These and other grading data indicate that ANorden is more similar in size to Georgia Green than C-99R. Grading data for ELK indicates that Georgia Green and ANorden are similar but 100-seed weight indicate that ANorden weighs more and thus may be more dense.

Table 2. Pod yield and tomato spotted wilt virus ratings for ANorden vs SunOleic 97R, AT201, and SunOleic 95R in Marianna, Florida (2001-2004).

Test	Entry	Pod yield (lbs./A)	TSWV <sup>1</sup>	
			A	B
04 FT#4	ANorden	3250	4.5	2.8
	SunOleic 97R	2284	7.3	1.8
	AT201	3383	5.3	2.5
04 M20	ANorden	3795	5.5	2.5
	SunOleic 97R	1465	7.5	1.8
	AT201	2681	8.5	1.6
	SunOleic 95R	950	8.5	1.6
03 FT#4	ANorden	2889	4.2	2.9
	SunOleic 97R	1400	7.8	1.7
	AT201	2104	7.8	1.7
03 M22	ANorden	3470	2.5	3.5
	SunOleic 97R	2969	6.5	2.2
	SunOleic 95R	1467	8.0	1.7
02 FT#4	ANorden	2357	5.0	2.6
	SunOleic 97R	1377	6.7	2.1
	AT201	1296	7.3	1.8
Ga 0206	ANorden	2078	4.9	2.7
	AT201	966	7.6	1.7
02 M11	ANorden	2646	5.5	2.5
	SunOleic 97R	1522	7.8	1.7
	AT201	2113	8.3	1.6
01 FT#4	ANorden	4909	3.5	3.1
	SunOleic 97R	3498	7.7	1.7
	AT 201	4081	7.3	1.8

<sup>1</sup>TSWV rating A) 1-10, 1 = no disease symptoms, and B) = 4 – 1 scale, 4 = highly resistant.

Table 3. Tomato spotted wilt studies in Florida and Georgia (2000-2002).

Entry	Pod yield (#/A)			% Disease <sup>1</sup>		
	Marianna	Tifton	Mean	Marianna	Tifton	Mean
<b><u>2000</u></b>						
Georgia Green	3081	4051	3566	58.9	37.5	48.2
GK7	2036	1756	1896	75.4	90.8	83.1
ANorden	3340	3820	3580	49.4	40.2	44.8
AT201	2955	3171	3063	67.5	46.7	57.1
<b><u>2001</u></b>						
Georgia Green	4922	2952	3937	23.8	29.2	26.5
SunOleic 97R	4507	1857	3182	42.1	69.6	55.9
ANorden	5610	3491	4551	17.9	26.5	22.2
AT 201	3844	2099	2472	35.8	50.4	43.1
<b><u>2002</u></b>						
Georgia Green	3681	4271	3976	44.6	54.8	49.7
ANorden	3689	4411	4050	35.4	55.2	45.3
AT201	2729	3387	3058	53.4	44.8	49.1

<sup>1</sup>TSWV ratings on percent of plot/plants with severe symptoms of TSWV from Dr. Albert Culbreath, University of Georgia, Tifton.

Table 4. Oil Chemistry data from Florida samples conducted at University of Florida Labs.

Entry	Oleic (18:1)	Linoleic (18:2)	Oil
	----- % -----		
ANorden	79.8	2.9	46.4
Georgia Green	54.8	25.1	51.3
Florunner	56.0	24.1	49.9
SunOleic 97R	80.7	2.5	49.2

Table 5. Chemical and flavor data on ANorden.

Entry	Fatty Acids (%)			%	%	Flavor <sup>1</sup>
	16:0	18:1	18:2	Oil	Sugar	
ANorden	5.7	79.0	2.8	47.0	3.7	4.3
Georgia Green	9.2	54.0	25.4	51.5	3.2	4.0

<sup>1</sup>Flavor rated on 1-10 (1 = poorest).

Table 6. Blanching data on ANorden (1999-2001).

Entry	Splits	Whole	Not	Partial
----- % -----				
ANorden	3.2	87.8	3.8	3.0
Georgia Green	7.3	83.7	3.3	3.7
C-99R	4.8	85.0	2.0	5.5

Table 7. ANorden seed size distribution data (1998-2000).

Entry	Percent on Screen Size (64 <sup>th</sup> inch)				SS	OK	Meat
	21	18	16	14			
	----- % -----						
ANorden	16.7	38.6	11.8	3.4	3.4	3.1	77.1
C-99R	45.9	20.0	3.0	1.1	6.8	1.7	78.5
Georgia Green	29.8	37.5	5.4	1.7	2.7	1.7	78.8

16.e.

#### Ownership Statement

ANorden originates from a cross made by D. W. Gorbet in the greenhouse at the Marianna NFREC in 1992. All selections were made under sprayed (leafspot) programs with medium to high management inputs at Marianna. Seed from two F<sub>5</sub> plants were bulked to initiate field tests at Marianna in 1997. UF98511 was tested at both Marianna and Gainesville beginning in 1998. UF98511 was approved for release by the University of Florida Agricultural Experiment Station (FAES) in 2002 as a new high oleic, medium maturity peanut cultivar, named ANorden.

Florida Foundation Seed Producers, Inc. (FFSP) has been designated and authorized to produce breeder and foundation seed of ANorden for commercial distribution. Only companies with approved contracts with FFSP are authorized to produce and sell seed of ANorden.

ANorden was developed by FAES scientist (breeder). By agreement between the breeder and FAES, this invention belongs to FAES and all rights, access, and use of this invention shall be in accordance to FAES policy. Also, ANorden is impacted by three University of Florida utility patents on the high oleic trait (Patent # 5,922,390; 6,121,472, and 6,063,984). These three patents impact the commercialization of all "high oleic" peanuts and as such arrangements must be made with the University of Florida Foundation for marketing any such peanut varieties.



U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Florida Agricultural Experiment Station <i>RAO</i> <del>University of Florida/IFAS</del> <i>5/6/05</i>	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  UF98511	3. VARIETY NAME  ANorden <i>5/28/2003</i>
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) Office of Dean for Research 1022 McCarty Hall, University of Florida P. O. Box 110200 Gainesville, FL 32611-0200	5. TELEPHONE (include area code) 352-392-1784	6. FAX (include area code) 352-392-4965  7. PVPO NUMBER <b>200300205</b>
8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. <div style="text-align: right;"> <input checked="" type="checkbox"/> YES    <input type="checkbox"/> NO         </div>		
9. Is the applicant (individual or company) a U.S. national or U.S. based company? If no, give name of country _____ <div style="text-align: right;"> <input checked="" type="checkbox"/> YES    <input type="checkbox"/> NO         </div>		
10. Is the applicant the original breeder? If no, please answer the following: <div style="margin-left: 40px;">           a. If original rights to variety were owned by individual(s):            Is (are) the original breeder(s) a U.S. national(s)? If no, give name of country _____  <div style="text-align: right;"> <input checked="" type="checkbox"/> YES    <input type="checkbox"/> NO           </div> </div> <div style="margin-left: 40px;">           b. If original rights to variety were owned by a company:            Is the original breeder(s) U.S. based company? If no, give name of country _____  <div style="text-align: right;"> <input checked="" type="checkbox"/> YES    <input type="checkbox"/> NO           </div> </div>		
11. Additional explanation on ownership (If needed, use reverse for extra space): D. W. Gorbet (Professor) - peanut breeder for Florida Agricultural Experiment Station		

**PLEASE NOTE:**

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original breeder, both the original breeder and the applicant must meet one of the above criteria.

The original breeder may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

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